

ABSTRACT

A pn-heterojunction compound semiconductor light-emitting device includes a crystalline substrate 101, a lower cladding layer 102 formed on a surface of the crystalline substrate and composed of an n-type Group III-V compound semiconductor, a light-emitting layer 103 formed on a surface of the lower cladding layer and composed of an n-type Group III-V compound semiconductor, an upper cladding layer 105 formed on a surface of the light-emitting layer and composed of p-type boron phosphide, an n-type electrode 106 attached to the lower cladding layer and a p-type electrode 107 attached to the upper cladding layer. The lower and upper cladding layers are opposed to each other and sandwich the light-emitting layer to form, in cooperation with the light-emitting layer, a light-emitting portion of a pn-heterojunction structure. The light-emitting device has an intermediate layer 104 composed of an n-type boron-containing Group III-V compound between the light-emitting layer and the upper cladding layer.